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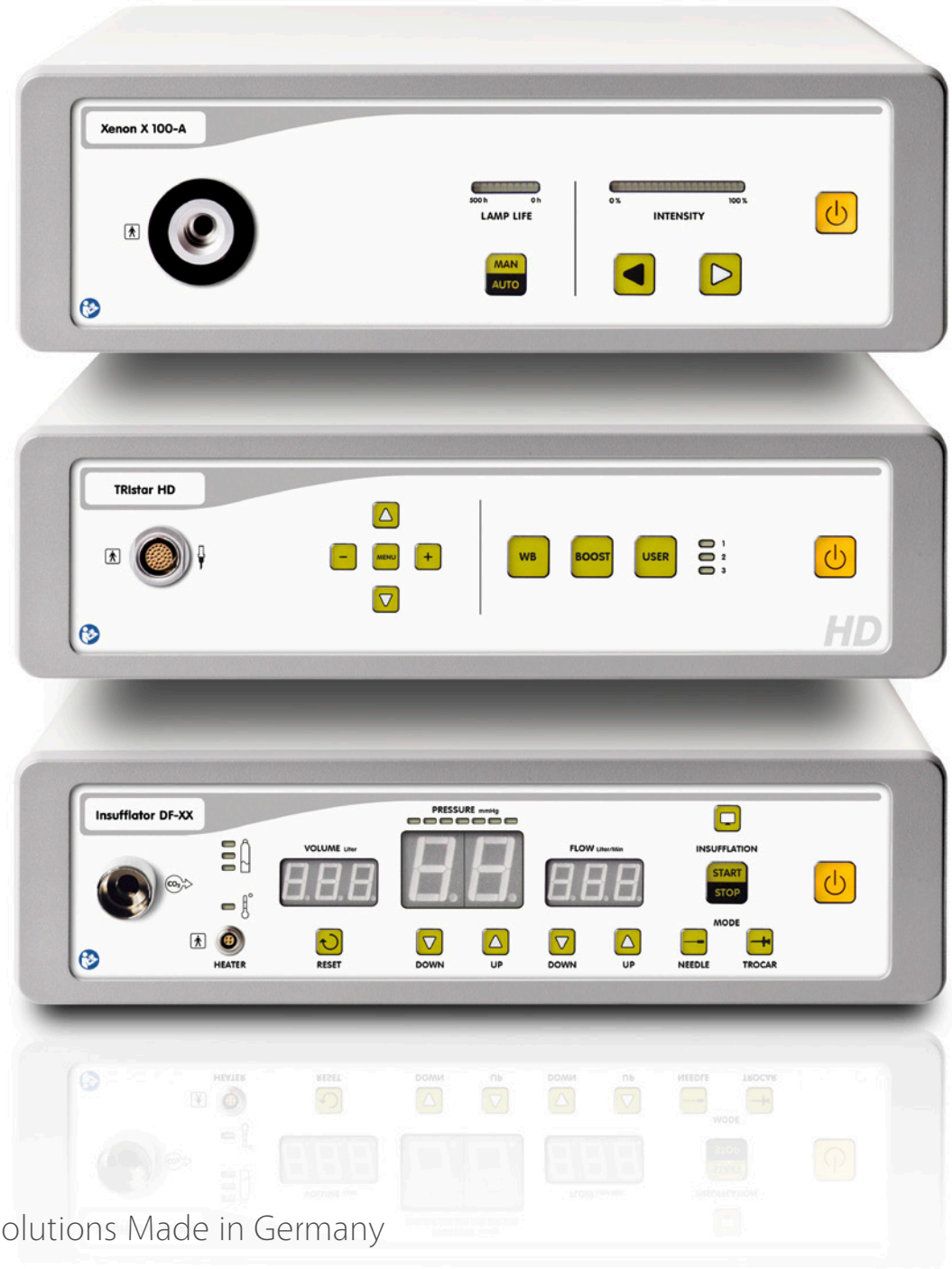
ENDOSCOPY EQUIPMENT EXPERTISE



OEM Solutions Made in Germany

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LIGHTSOURCES

XENON - BASIC SERIES

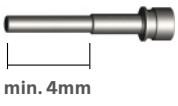
1

- Low noise, low heat conduction
- Electronical light control via buttons
- Simple lamp replacement
- Waterproof touch control panel

Series	Description
Xenon X 100-M	100 Watt, Storz adapter, manual light intensity control
Xenon X 100-MT	100 Watt, turret adapter, manual light intensity control
Xenon X 100-A	100 Watt, Storz adapter, automatic light intensity control
Xenon X 100-AT	100 Watt, turret adapter, automatic light intensity control
Xenon X 180-M	180 Watt, Storz adapter, manual light intensity control
Xenon X 180-MT	180 Watt, turret adapter, manual light intensity control
Xenon X 180-A	180 Watt, Storz adapter, automatic light intensity control
Xenon X 180-AT	180 Watt, turret adapter, automatic light intensity control
Xenon X 300-M	300 Watt, Storz adapter, manual light intensity control
Xenon X 300-MT	300 Watt, turret adapter, manual light intensity control
Xenon X 300-A	300 Watt, Storz adapter, automatic light intensity control
Xenon X 300-AT	300 Watt, turret adapter, automatic light intensity control

Technical Data

Lamp	· Xenon arc lamp: 100 W/ 180 W/ 300 W · Daylight quality, 5600 K · Lifetime: 500 hr (expected)
Light guide connection	· Storz, Wolf, Olympus, turret adapter
System	· Power supply: 100-240 V AC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay 6,3 AT (I=1500A) · Power consumption: 185 VA/ 280 VA/ 370 VA
Video In (opt.)	· 1x Video (automatic Version only)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· (WxHxD): 355 x 120 x 340 mm · Weight: 9,0 kg (100W) / 9,0 kg (180W) / 10,5 kg (300W)
Delivery contains	· Light source, mains cable, user manual, BNC cable (optional)
Options	· Automatic light intensity control · Lamp life & intensity with 7-segment display · Multi connector option, turret:

Wolf	
ACMI	
Olympus	
Storz	

Exclusively pictured version!

LIGHTSOURCES

LED 1000 - HIGH INTENSITY LIGHTSOURCE

1

- Low noise, low heat conduction
- Electronical light control via buttons
- Pure daylight quality
- Waterproof touch control panel

Series	Description
LED 1000-A	Storz adapter, automatic light intensity control
LED 1000-A	Wolf adapter, automatic light intensity control
LED 1000-A	Olympus adapter, automatic light intensity control

Technical Data

Lamp	· Daylight quality, 6000-6500 K · Lifetime: > 20.000 hr
Light guide connection	· Storz, Wolf adapter
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay 6,3 AT (I=1500A) · Power consumption: 90 VA
Video In (opt.)	· 1x Video (automatic Version only)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· (WxHxD): 355 x 103 x 253 mm · Weight: 4,9 kg
Delivery contains	· Light source, mains cable, user manual, BNC cable (optional)

Options

intensity displayed
as clear value

LIGHTSOURCES

LED 3000 - HIGH INTENSITY LIGHTSOURCE

- PHASER® Technology Included
- Turret multi connector (optional)
- Low noise, low heat conduction
- Pure daylight quality

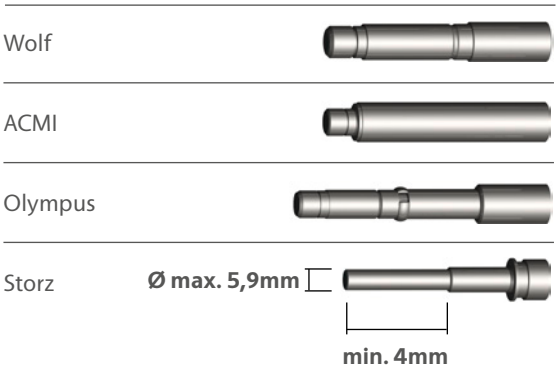
Series	Description
LED 3000	Storz adapter, automatic light intensity control
LED 3000	Wolf adapter, automatic light intensity control
LED 3000	Olympus adapter, automatic light intensity control
LED 3000 T	Turret adapter, automatic light intensity control

Technical Data

Light guide connection

- Storz, (standard connection):

- Turret, multi connector (optional):



Exclusively pictured version!

Lamp	· Daylight quality, 6000-6500 K · Lifetime: 30.000 hr
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay 6,3 AT (I=1500A) · Power consumption: 200 VA
Video In	· 1x Video
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I · Class 1 laser product
Dimensions	· (WxHxD): 355 x 120 x 340 mm · Weight: 10,6 kg
Delivery contains	· Light source, mains cable, user manual, BNC cable

1

- Small compact design
- Exchangable lightguide adapter
- Mechanical diaphragm
- Low heat conduction

Technical Data

Lamp	· 150 W (1 Halogen reflector lamp), 15 V · 3600 K
Light guide connection	· Storz, Wolf, Olympus, ACMI
Intensity control	· Stepless, mechanical diaphragm
System	· Power supply: 110/115 VAC or 230/240 VAC switchable · Power consumption: 160 VA
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· (WxHxD): 175 x 82,5 x 202 mm · Weight: 3,5 kg
Delivery contains	· Light source, mains cable, user manual

HALOGEN HL 250

- Mechanical diaphragm
- Softstart electronic
- Exchangable lightguide adapter
- Low heat conduction

Series	Description
HL 250	250 Watt, 2 lamps, 1 output
HL 250 DUO	250 Watt, 2 lamps, 2 outputs (no simultanous use)

Technical Data

Lamp	· 250 W (1 or 2 Halogen reflector lamps), 24 V · 3600 K
Light guide connection	· Storz, Wolf, Olympus, ACMI
System	· Power supply: 110/115 VAC or 230/240 VAC switchable · Power consumption: 260 VA
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· (WxHxD): 355 x 120 x 340 mm · Weight: 8 kg
Delivery contains	· Light source, mains cable, user manual

LED STROBOSCOPIC LIGHTSOURCE

VOCALED

- For laryngostroboscopic practices
- Small and compact design

LED STROBOSCOPIC LIGHTSOURCE

VOCALED

Technical Data

Handpiece	· White LED lamp, comparable 100 Watt · 6500 K (+/- 500 K) · Lifetime: 20000 hr · Connector type: Storz
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Features	· Stroboscope light / continuous light · Stroboscope range: 30 - 1200 Hz · Automatic stroboscope function · Slowmotion rate: 0,5 / 1 / 1,5 / 2 Hz · Brightness control
Dimensions	· Control unit: 202 x 72 x 176 mm (WxHxD); 1,6 kg · Handpiece: length 120 mm; diameter 30 mm; 0,18 kg
Delivery contains	· Light source, mains cable, user manual, LED handpiece, stethoscope, footswitch (optional)

LED handpiece

Stethoscope

Footswitch (optional)

LIGHTSOURCES - ACCESSORIES

ILLUMINANT

Illuminant	Description	Order number
ILO 300W 5H Xenon	300W Xenon lamp, 5-hole inlc. heat transfer copmound	125-0008
ILO 180W	180W Xenon bulb, X 180 ILO standard	770-1008
ILO 100W	100W Xenon bulb, X 100 ILO standard	770-1001
Halogen 150W	Halogen lamp 150W, 15V, type: Xenophot HLX 64634, OSRAM	126-0001
Halogen 250W	Halogen lamp 250W, 24V, type: Typ 13163 ILC, Philips	126-0010
Halogen 75W	Halogen lamp 75W, 12V, type: Xenophot HLX 64615, OSRAM	126-0003
Metal Halid bulb	Metal halid bulb X24, 24 Watt	770-0000
X 50 Spare lamp	X 50 Spare lamp ofr XL50, XE50 eco, X50 with mounting ring	770-0005

Liquid light guides	Diameter	Length	Color	Order number
18 FM 50	5,0 mm	1800 mm	grey	894-0000
23 FM 50	5,0 mm	2300 mm	grey	894-0001
30 FM 50	5,0 mm	3000 mm	grey	894-0002
18 FM 50	5,0 mm	1800 mm	stainless steel mantle	894-0008

Glass fibre light guides	Diameter	Length	Color	Order number
18 LW 35	3,5 mm	1800 mm	grey	890-0003
18 LW 48	4,8 mm	1800 mm	grey	890-0004
23 LW 35	3,5 mm	2300 mm	grey	890-0005
23 LW 48	4,8 mm	2300 mm	grey	890-0006
18 LC 35	3,5 mm	1800 mm	grey	891-0003
18 LC 48	4,8 mm	1800 mm	grey	891-0004
23 LC 35	3,5 mm	2300 mm	grey	891-0005
23 LC 48	4,8 mm	2300 mm	grey	891-0006
23 LC 35	3,5 mm	3000 mm	grey	891-0007
30 LC 48	4,8 mm	3000 mm	grey	891-0008
23 LC 48	4,8 mm	2300 mm	blue	891-0016
23 LC 48	4,8 mm	2300 mm	red	891-0017
18 HLC 35	3,5 mm	1800 mm	grey	892-0000
18 HLC 48	4,8 mm	1800 mm	grey	892-0001
23 HLC 35	3,5 mm	2300 mm	grey	892-0002
23 HLC 48	4,8 mm	2300 mm	grey	892-0003
30 HLC 35	3,5 mm	3000 mm	grey	892-0004
30 HLC 48	4,8 mm	3000 mm	grey	892-0005
23 HLC 35	3,5 mm	2300 mm	yellow	892-0006
23 HLC 35	3,5 mm	2300 mm	green	892-0007
23 HLC 48	4,8 mm	2300 mm	blue	892-0008
23 HLC 48	4,8 mm	2300 mm	red	892-0009
23 HLC 48	4,8 mm	2300 mm	yellow	892-0010
23 HLC 48	4,8 mm	2300 mm	green	892-0014
23 HLC 35	3,5 mm	2300 mm	red	892-0015

LIGHTSOURCES - ACCESSORIES

LIGHT GUIDE ADAPTER

Adapter source side	Description	Order number
input, Storz	Light guide adapter light source side, for LW-, LC-Type	896-0008
input, Olympus	Light guide adapter light source side, for LW-, LC-Type	896-0009
input, Wolf	Light guide adapter light source side, for LW-, LC-Type	896-0010
input, ACMI	Light guide adapter light source side, for LW-, LC-Type	896-0011
input, Storz HLC	Light guide adapter light source side, for HLC-Type	896-0016
input, Olympus HLC	Light guide adapter light source side, for HLC-Type	896-0017
input, Wolf HLC	Light guide adapter light source side, for HLC-Type	896-0018
input, ACMI HLC	Light guide adapter light source side, for HLC-Type	896-0019

LIGHT GUIDE ADAPTER

Adapter instrument side	Description	Order number
output, Storz,	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type	896-0000
output, Olympus	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type	896-0001
output, Wolf	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type	896-0002
output, ACMI	Light guide adapter instrument side, for LW-, LC-, HLC-, FM-type	896-0003

EcoCAM 750 - DIGITAL VIDEO CAMERA 1-CCD

- Natural colour reproduction
- Single chip
- Anti-moiree-filter
- High image quality

EcoCAM 750 - DIGITAL VIDEO CAMERA 1-CCD

Technical Data

Camera head:	· Aspect ratio: 4:3 · Image sensor: 1/3'' CCD · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 20 VA · Image resolution: PAL 752 x 582/ NTSC 768 x 494 · TV resolution: > 470 lines · Sensivity: < 1 lux (1/1.4) · White balance automatically, with data hold shutter speed PAL (NTSC): 1/50 (1/60) to 1/100.000 sec
Video out terminal	· 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· Control unit (WxHxD): 355 x 103 x 253 mm; 4,4 kg
Delivery contains	· CCU, camera head with 3m cable, mains cable, User manual, Y/C cable, BNC cable
Video system	· PAL/NTSC

Options

Freeze function	· Freeze the image via footswitch

EcoCAM 750 camera head

Weight: 80 g
Size: d= 29 mm; l= 55 mm

- Multilingual on-screen-menu
- Digital zoom
- Camera control with keyboard
- Character generator

Technical Data

Camera head:	· Aspect ratio: 4:3 · Image sensor: 1/3'' CCD · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 20 VA · Image resolution: PAL 752 x 582/ NTSC 768 x 494 · TV resolution: > 470 lines · Sensivity: < 1 lux (1/1.4) · White balance automatically, with data hold shutter speed PAL (NTSC): 1/50 (1/60) to 1/100.000 sec
Video out terminal	· 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Dimensions	· Control unit (WxHxD): 355 x 103 x 253 mm; 4,4 kg
Delivery contains	· CCU, camera head with 3m cable, mains cable, User manual, Y/C cable, BNC cable, HDMI - DVI cable (optional), HDMI cable (optional), USB Stick (optional)
Video system	· PAL/NTSC

Series	SwiftCAM	SwiftCAM-C	SwiftCAM-D	SwiftCAM-CD
On-screen-display	x	x	x	x
Menu	x	x	x	x
Titel generator option PS/2	x	x	x	x
Capture module (image, video)	-	x	-	x
HDMI out	-	-	x	x
Zoom function	x	x	x	x

Options

Freeze function	· Freeze the image via push buttons
Remote camera head	· With programmable push buttons (zoom, freeze)
Remote footswitch	· With programmable push buttons

EcoCAM 750 camera head

Weight: 80 g
Size: d= 29 mm; l= 55 mm

Without push buttons

Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

TRISTAR HD - HIGH DEFENITION CAMERA 3-CCD

- Full HD resolution
- High speed shutter
- Multilingual menu
- Remote camera head

Technical Data

Camera head:	· Aspect ratio: 16:9 · Image sensor: 3x 1/3'' CCD · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 20 VA · Image resolution: full HD 1920 x 1080 · TV resolution: > 1000 lines · Sensivity: < 3 lux (1/1.4) · White balance automatically, with data hold shutter speed: 1/50 (1/60) to 1/100.000 sec
Video out terminal	· 2x HD SDI · 1x HDMI / DVI · 1x Y-Pb-Pr (Component) · 1x Video (PAL / NTSC) · 1x S-Video (PAL / NTSC)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Features	· White balance, boost function · On-screen-menu · 3 user settings storable · 2.5 digital zoom · Freeze function · Character generator
Dimensions	· Control unit: 355 x 103 x 253 mm (WxHxD); 4,5 kg
Delivery contains	· CCU, camera head with 4m cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cabel, HDMI cable, RGB cable, User manual · Optional: waterproof keyboard, footswitch

Options

Optional accessories	· Waterproof keyboard · Footswitch

TRIstar HD 3-CCD camera head

Weight: 160 g
Size: 82 x 53 x 39 mm

With push buttons

SWIFT 1HD - HIGH DEFENITION CAMERA 1-MOS

- Full HD resolution
- High speed shutter
- Multilingual menu
- Remote camera head

SWIFT 1HD - HIGH DEFENITION CAMERA 1-MOS

Technical Data

Camera head:	· Aspect ratio: 16:9 · Image sensor: 1/3'' MOS · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 20 VA · Image resolution: full HD 1920 x 1080 · TV resolution: > 1000 lines · Sensivity: < 3 lux (1/1.4) · White balance automatically, with data hold shutter speed: 1/50 (1/60) to 1/100.000 sec
Video out terminal	· 1x HDMI / DVI · 1x Y-Pb-Pr (Component) · 1x Video (PAL / NTSC) · 1x S-Video (PAL / NTSC) · 2x HD SDI (optional) · LAN (optional)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Features	· White balance, boost function · On-screen-menu · 3 user settings storable · 2.5 digital zoom · Freeze function · Character generator
Dimensions	· Control unit: 355 x 103 x 253 mm (WxHxD); 4,5 kg
Delivery contains	· CCU, camera head with 3m cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, RGB cable, user manual

Options

Features	· Image capture, video capture
Optional accessories	· Waterproof keyboard · Footswitch

Swift 1HD camera head

Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

CAMERAS

TRISTAR HD - HIGH DEFENITION CAMERA 3-MOS

- Full HD resolution
- High speed shutter
- Multilingual menu
- Remote camera head

Technical Data

Camera head:	· Aspect ratio: 16:9 · Image sensor: 3 MOS · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 20 VA · Image resolution: full HD 1920 x 1080 · TV resolution: > 1000 lines · Sensivity: < 3 lux (1/1.4) · White balance automatically, with data hold shutter speed: 1/50 (1/60) to 1/100.000 sec
Video out terminal	· 2x HD SDI · 1x HDMI / DVI · 1x Y-Pb-Pr (Component) · 1x Y/C (PAL / NTSC) · 1x CVBS (PAL / NTSC) · LAN (optional)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1C; classification acc. 93/42/EEC: I
Features	· White balance, boost function · On-screen-menu · 3 user settings storable · 2.5 digital zoom · Freeze function · Character generator
Dimensions	· Control unit: 355 x 103 x 253 mm (WxHxD); 4,5 kg
Delivery contains	· CCU, camera head with 4m cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, RGB cable, User manual

Options

Features	· Image capture, video capture
Optional accessories	· Waterproof keyboard · Footswitch

TRIstar 3-MOS camera head

Weight: 145 g
Size: d= 38,5 mm; l= 81 mm

With push buttons

TV ADAPTER

Series	Description	Order number
TV-ILO 21 WP	Adapter f = 21.0 mm, c-mount, soakable	870-0000
TV-ILO 28 WP	Adapter f = 28.0 mm, c-mount, soakable	870-0001
TV-ILO 35 WP	Adapter f = 35.0 mm, c-mount, soakable	870-0002
TV-ILO 15 WP	Adapter f = 15.0 mm, c-mount, soakable	870-0003
TV-ILO 40 WP	Adapter f = 40.0 mm, c-mount, soakable	870-0006
TV-ILO 21 NWP	Adapter f = 21.0 mm, c-mount, non-soakable	871-0007
TV-ILO 28 NWP	Adapter f = 28.0 mm, c-mount, non-soakable	871-0008
TV-ILO 35 NWP	Adapter f = 35.0 mm, c-mount, non-soakable	871-0009
TV-ILO 15 NWP	Adapter f = 15.0 mm, c-mount, non-soakable	871-0010
TV-ILO 40 NWP	Adapter f = 40.0 mm, c-mount, non-soakable	871-0011
TV-Zoom 1535 PWP	Adapter, vario-zoom, f = 15.0 - 35.0 mm, c-mount, soakable	870-0016
TV-Zoom 1525 WP	Adapter, f = 15.0 - 25.0 mm, c-mount, soakable	870-0004
TV-Zoom 2540 WP	Adapter, f = 25.0 - 40.0 mm, c-mount, soakable	870-0005
TV-28 HDWP	Adapter f = 28.0 mm, S-design, c-mount, soakable	870-0027
TV-25 HDWP	Adapter f = 25.0 mm, S-design, c-mount, soakable	870-0029
TV-14 HDWP	Adapter f = 14.0 mm, S-design, c-mount, soakable	870-0029
TV-Adapter angled	Adapter, angled 90°, f = 30.0 mm, c-mount, soakable	870-0008
TV-Adapter angled	Adapter, angled 90°, f = 25.0 mm, c-mount, soakable	870-0009
TV-Adapter angled	Adapter, angled 90°, f = 18.0 mm, c-mount, soakable	870-0010
TS-ILO 30 WP	Beamsplitter TV-Adapter, f = 30.0 mm c-mount, soakable	873-0000
TS-ILO 25 WP	Beamsplitter TV-Adapter, f = 25.0 mm c-mount, soakable	873-0001
TS-ILO 18 WP	Beamsplitter TV-Adapter, f = 18.0 mm c-mount, soakable	873-0002
TS-ILO 35 WP	Beamsplitter TV-Adapter, f = 35.0 mm c-mount, soakable	873-0003

COMBINATIONS

XE-50 SERIES

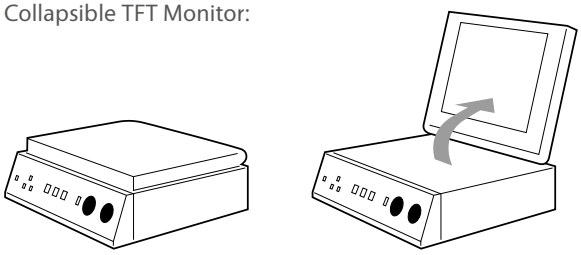
- Multifunctional system
- Compact & efficient
- Camera and Lightsource
- Documentation system

Technical Data

Camera head:	· Aspect ratio: 4:3 · Image sensor: 1/3'' CCD · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (I=1500A) · Power consumption: 110 VA · Video resolution: 470 lines · Sensivity: < 1 lux (1/1.4)
Video system	· PAL/NTSC
Monitor	· 10,4" TFT, 800 x 600 dots resolution
Shutter range	· PAL 1/50 - 1/100.000 sec; NTSC 1/60 - 1/100.000 sec
Lamp	· Xenon metal halide short arc Lamp, 50 W, 5500 K
Light guide connection	· Storz
Video out terminal	· 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Features	· White balance, window functions, boost function, anti-moiree-filter · Freeze function · Video & image capture
Dimensions	· Control unit: 295 x 128 x 278 mm (WxHxD); 6 kg
Delivery contains	· CCU, mains cable, user manual, , Y/C cable, BNC cable, USB Stick (optional)

Housing

Collapsible TFT Monitor:



Series	XE 50 USB	XE 50 MOTION
Image capture	x	x
Video capture	-	x

XE-50 Motion camera head

Weight: 80 g
Size: d= 29 mm; l= 55 mm

Without push buttons

Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

COMBINATIONS

LED-50 SERIES

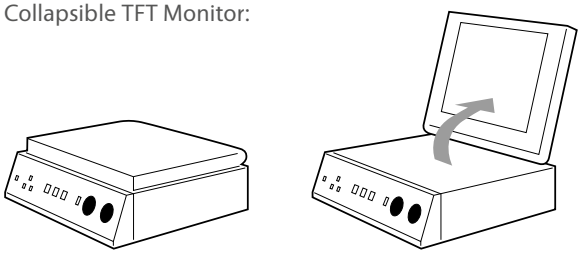
- Multifunctional system
- Compact & efficient
- Camera and Lightsource
- Documentation system

Technical Data

Camera head:	· Aspect ratio: 4:3 · Image sensor: 1/3'' CCD · Immersible (using the attached cap)
System	· Power supply: 100/240 VAC, 50-60 Hz · Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,5 AH (I=1500A) · Power consumption: 90 VA · Video resolution: 470 lines · Sensivity: < 1 lux (1/1.4)
Video system	· PAL/NTSC
Monitor	· 10,4" TFT, 800 x 600 dots resolution
Shutter range	· PAL 1/50 - 1/100.000 sec; NTSC 1/60 - 1/100.000 sec
Lamp	· LED lamp, comparable 50 W, 5500 K
Light guide connection	· Storz
Video out terminal	· 2x Video; 2x S-Video; 1x Y-Pb-Pr (Component); 1x SDI; 1x USB 2.0; HDMI (optional)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: I
Features	· White balance, window functions, boost function, anti-moiree-filter · Freeze function · Documentation system
Dimensions	· Control unit: 295 x 128 x 278 mm (WxHxD); 5 kg
Delivery contains	· CCU, mains cable, user manual, , Y/C cable, BNC cable, USB Stick (optional)

Housing

Collapsible TFT Monitor:



Series	LED-50 USB	LED-50 MOTION
Image capture	x	x
Video capture	-	x

	LED-50 USB-D	LED-50 MOTION-D
HDMI	x	x

LED-50 series camera head

Weight: 80 g
Size: d= 29 mm; l= 55 mm

Without push buttons

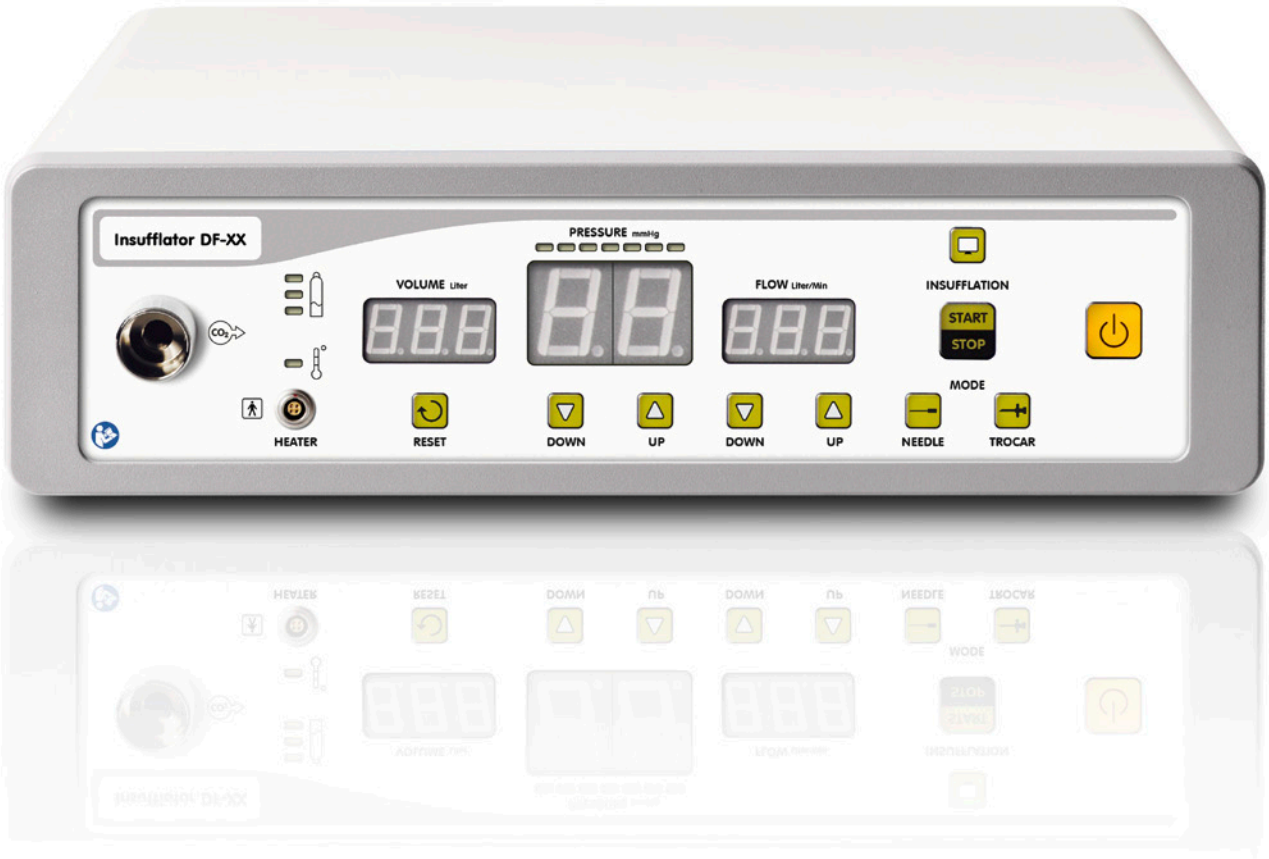
Weight: 105 g
Size: d= 34 mm; l= 73 mm

With push buttons

INSUFFLATOR

CO_2-INSUFFLATOR D-FLOW

- Full automatic
- Filter system for sterility
- Up to 45 liters/ minute
- Microprocessor controlled



Series	Description
DF-315	Maximum gasflow: 15 l/min
DF-320	Maximum gasflow: 20 l/min
DF-330	Maximum gasflow: 30 l/min
DF-345	Maximum gasflow: 45 l/min

Options

Version H Version V	· With gas heater · With OSD - On-Screen-System (only available with connected ILO OSD Camera)

Technical Data

Insufflator pressure	· 0 - 30 mmHg
Power supply	· 100 - 240 VAC, 50 - 60 Hz
Power consumption	· 25 - 40 VA (25-105 VA with gas heating)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: IIb
Gas	· Carbon dioxide (medical)
Gas connection	· UNF 7/16"
Dimensions	· Control unit: 355 x 105 x 253 mm (WxHxD); 6,5 kg
Delivery contains	· Insufflator, mains cable, CO2 high pressure tube UNF to German gas connection, wrench set: SW14/ SW30, sterile filter, standard silicone tube (not H version), system gas heater with tube set (only H version), user manual
Features	· Flexible gas supply: The device can be used with gas bottles or central gas supply systems. The gas supply mode can be changed very easily by integrated software. · System gas heater: For reduction of post surgery problems the DF Series is available with a high efficient gas heater. The gas heater is preadjusted and works on a plug and play base full automatically. The heat exchanger can be autoclaved with the tube set. · OSD: The On-Screen-Display gives the surgeon the possibility to display the important values on the monitor. · ACF: The DF Series stands for Advance-Continuous-Flow-Insufflation. That means no more disruption between gasflow and pressure reading phases. · Safety: The automatic self check is activated each time the unit is switched on to ensure that all electronic and pneumatic components are in good running order. This safety feature carries a guarantee for lifetime of the unit. The changeable sterile filter prevents reflux of liquids and contamination of the gas way. · Differantial pressure indicator: A colored LED arrey shows the actual-setpoint pressure difference between setted value and factual value in the patient.

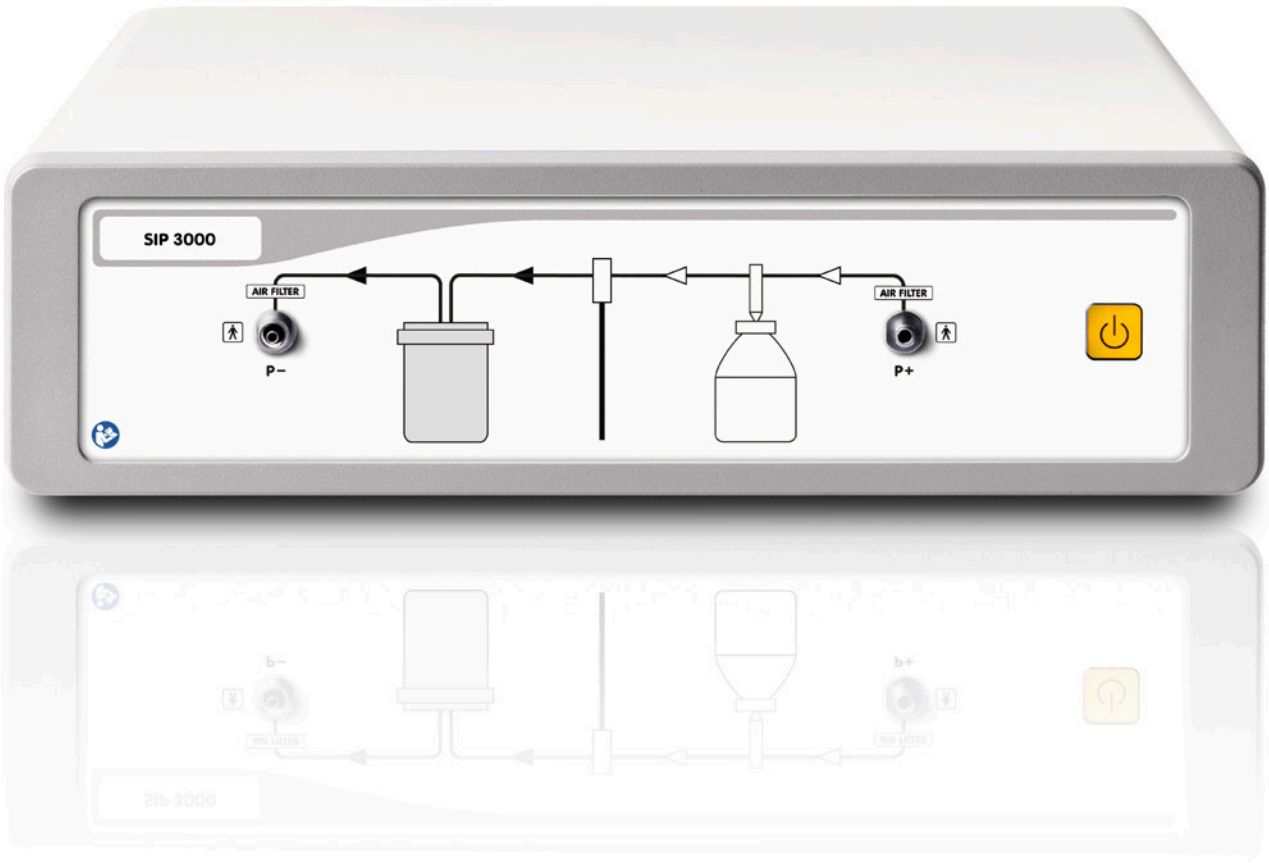
INSUFFLATOR
ACCESSORIES

Insufflator Accessories	Description	Order Number
Heating Device	Heater source for insufflators with heating, autoclavable	952-0012
Filter	single sterilized filter for insufflator, single use	952-0009
Filter	50 sterilized filter for insufflator, single use	952-0007
High-pressure-tube	DIN GER/ DIN GER	952-0020
High-pressure-tube	UNF/ UNF	952-0022
High-pressure-tube	UNF/ PIN Index	952-0025
High-pressure-tube	UNF/ ISO	952-0026
High-pressure-tube	UNF/ GER, 1m, CO2, 345 bar, 6 x 3000 mm	952-0021-1
High-pressure-tube	UNF/ GER, 2m, CO2, 345 bar, 6 x 3000 mm	952-0021-2
High-pressure-tube	UNF/ GER, 3m, CO2, 345 bar, 6 x 3000 mm	952-0021-3
Tubing	For hysteroscopy insufflator, 4mm x 2,5m	952-0015
Tubing	For laparoscopy insufflator without heating, 8mm x 2,5m	952-0004
Tubing	For laparoscopy insufflator with heating, 8mm x 2,5m	952-0003

PUMP

SUCTION IRRIGATION PUMP - SIP 3000

- Full automatic
- Filter system for sterility
- Up to 3 liters/ minute
- Standby function



Technical Data

Power supply	· 115 VAC / 230 VAC switchable
Irrigation	· Max. 3000 ml/min (depending on tube set and instrument)
Suction	· Max. 3000 ml/min (depending on tube set and instrument)
Standard	· Protection class: I · Application part: Type BF · IEC 601-1, EN 60601-1; classification acc. 93/42/EEC: IIa
Dimensions	· Control unit: 355 x 105 x 253 mm (WxHxD); 5,5 kg
Delivery contains	· SIP 3000, 2 liter suction bottle with holder, 2 sterile filter, 1 silicone tube set for suction and irrigation, 1 thorn for rinsing bottle, user manual
Features	· Overpressure in the irrigation bottle and underpressure in the suction bottle are controlled and ballanced by high sensitive electronical sensors. · The automatic standby function keeps the pressure available and reduces the noise if the system is not used. · The use of disposable sterile air filters avoids contamination of the SIP 3000 and the irrigation liquid by contaminated air. · All accessories are full autoclavable. · The SIP 3000 is very simple to install and easy to use

PUMP
ACCESSORIES

Insufflator Accessories	Description	Order Number
Thorn for rinsing bottle	For suction irrigation pump SIP 3000	956-0010
Filter	50 sterilized filter for Pump, single use	956-0001-50
Filter	100 sterilized filter for Pump, single use	956-0001-100
Filter	500 sterilized filter for Pump, single use	956-0001-500
Tube set	For suction irrigation pump SIP 3000, 8mm	956-0005
	Tubing, 6mm, 1x Male Luer Lock, 250 cm	
	Tubing, 6mm, Silicone Tube, 250 cm	
	Tubing, 6mm, 1x Female Luer Lock, 80 cm	
	Tubing, 6mm, 2x Male Luer Lock, 80 cm	
Suction bottle	For suction irrigation pump SIP 3000	956-0009

2000
1500
1000
500

ENDOSCOPES

ENT (EAR, NOSE, THROAT)

Otoscope	Description	Order number
Ø = 2.7 mm	Otoscope, Ø 2.7 mm, l = 50.0 mm, 0°, autoclavable	886-0051
Ø = 2.7 mm	Otoscope, Ø 2.7 mm, l = 50.0 mm, 30°, autoclavable	886-0052
Ø = 4.0 mm	Otoscope, Ø 4.0 mm, l = 50.0 mm, 0°, autoclavable	886-0053
Ø = 4.0 mm	Otoscope, Ø 4.0 mm, l = 50.0 mm, 30°, autoclavable	886-0054
Ø = 4.0 mm	Otoscope, Ø 4.0 mm, l = 50.0 mm, 0°, autoclavable with ear speculum	886-0094

Oesophagoscope	Description	Order number
Ø = 5.5 mm	Oesophagoscope, Ø 5.5 mm, l = 530.0 mm, 0°, autoclavable	886-0077

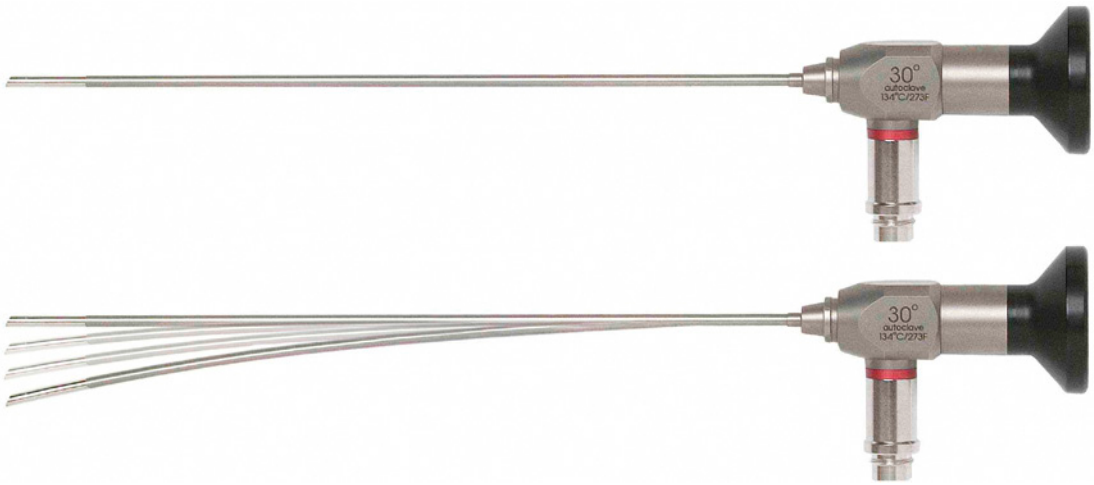
Micro Laryngoscope	Description	Order number
Ø = 4.0 mm	Micro Laryngoscope, Ø 10.0 mm, l = 175.0 mm, 70°, autoclavable	886-0090

Bronchoscope	Description	Order number
Ø = 5.5 mm	Bronchoscope, Ø 5.5 mm, l = 505.0 mm, 0°, autoclavable	886-0078
Ø = 5.5 mm	Bronchoscope, Ø 5.5 mm, l = 505.0 mm, 30°, autoclavable	886-0079

Tele-Laryngo-Pharing	Description	Order number
Ø = 11.0 mm	Tele-Laryngo-Pharing, Ø 10.0 mm, l = 200.0 mm, 90°, soakable	886-0098
Ø = 11.0 mm	Tele-Laryngo-Pharing, Ø 10.0 mm, l = 200.0 mm, 70°, soakable	886-0099

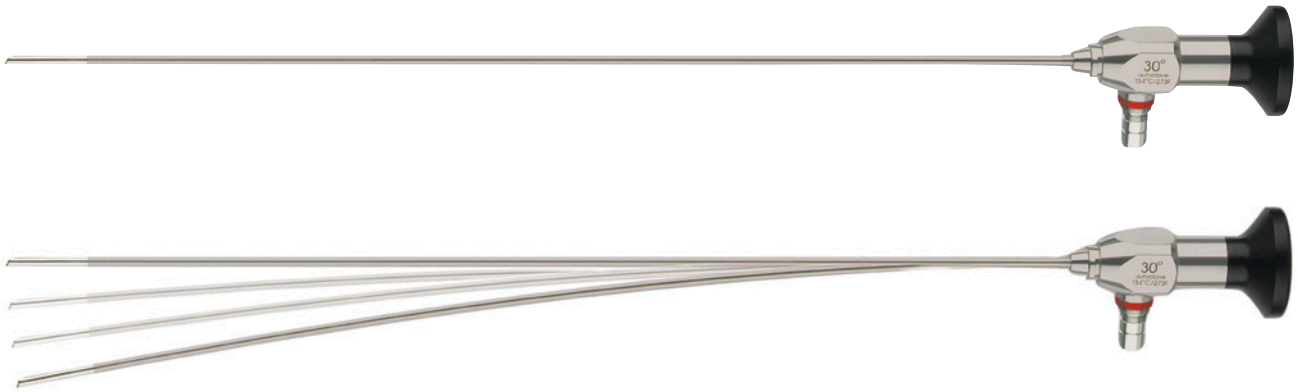
Laryngoscope	Description	Order number
Ø = 10.0 mm	Laryngoscope, Ø 10.0 mm, l = 190.0 mm, 90°, soakable	886-0076
Ø = 8.0 mm	Laryngoscope, Ø 8.0 mm, l = 190.0 mm, 70°, soakable	886-0080
Ø = 10.0 mm	Laryngoscope, Ø 10.0 mm, l = 190.0 mm, 90°, autoclavable	886-0107
Ø = 8.0 mm	Laryngoscope, Ø 8.0 mm, l = 190.0 mm, 70°, autoclavable	886-0106

Sinuscope	Description	Order number
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 110.0 mm, 0°, autoclavable	886-0055
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 110.0 mm, 0°, autoclavable	886-0056
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 110.0 mm, 30°, autoclavable	886-0057
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 110.0 mm, 30°, autoclavable	886-0058
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 110.0 mm, 70°, autoclavable	886-0059
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 175.0 mm, 0°, autoclavable	886-0060
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 175.0 mm, 0°, autoclavable	886-0061
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 175.0 mm, 30°, autoclavable	886-0062
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 175.0 mm, 30°, autoclavable	886-0063
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 175.0 mm, 70°, autoclavable	886-0064
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 187.5 mm, 0°, autoclavable	886-0065
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 187.5 mm, 0°, autoclavable	886-0066
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 187.5 mm, 30°, autoclavable	886-0067
Ø = 2.7 mm, semiflex	Sinuscope, Ø 2.7 mm, l = 187.5 mm, 30°, autoclavable	886-0068
Ø = 2.7 mm	Sinuscope, Ø 2.7 mm, l = 187.5 mm, 70°, autoclavable	886-0069
Ø = 4.0 mm	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 0°, autoclavable	886-0070
Ø = 4.0 mm, semiflex	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 0°, autoclavable	886-0071
Ø = 4.0 mm	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 30°, autoclavable	886-0072
Ø = 4.0 mm, semiflex	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 30°, autoclavable	886-0073
Ø = 4.0 mm	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 45°, autoclavable	886-0087
Ø = 4.0 mm, semiflex	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 45°, autoclavable	886-0088
Ø = 4.0 mm	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 70°, autoclavable	886-0074
Ø = 4.0 mm, semiflex	Sinuscope, Ø 4.0 mm, l = 175.0 mm, 70°, autoclavable	886-0075



ENDOSCOPES
GYNECOLOGY

Hysteroscope	Description	Order number
Ø = 2.7 mm	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 0°, autoclavable	886-0025
Ø = 2.7 mm, semiflex	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 0°, autoclavable	886-0026
Ø = 2.7 mm	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 12°, autoclavable	886-0103
Ø = 2.7 mm, semiflex	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 12°, autoclavable	886-0104
Ø = 2.7 mm	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 30°, autoclavable	886-0027
Ø = 2.7 mm, semiflex	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 30°, autoclavable	886-0028
Ø = 2.7 mm	Hysteroscope, Ø 2.7 mm, l = 302.0 mm, 70°, autoclavable	886-0029
Ø = 4.0 mm	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 0°, autoclavable	886-0030
Ø = 4.0 mm, semiflex	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 0°, autoclavable	886-0031
Ø = 4.0 mm	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 12°, autoclavable	886-0032
Ø = 4.0 mm, semiflex	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 12°, autoclavable	886-0033
Ø = 4.0 mm	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 30°, autoclavable	886-0034
Ø = 4.0 mm, semiflex	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 30°, autoclavable	886-0035
Ø = 4.0 mm	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 70°, autoclavable	886-0036
Ø = 4.0 mm, semiflex	Hysteroscope, Ø 4.0 mm, l = 302.0 mm, 70°, autoclavable	886-0037



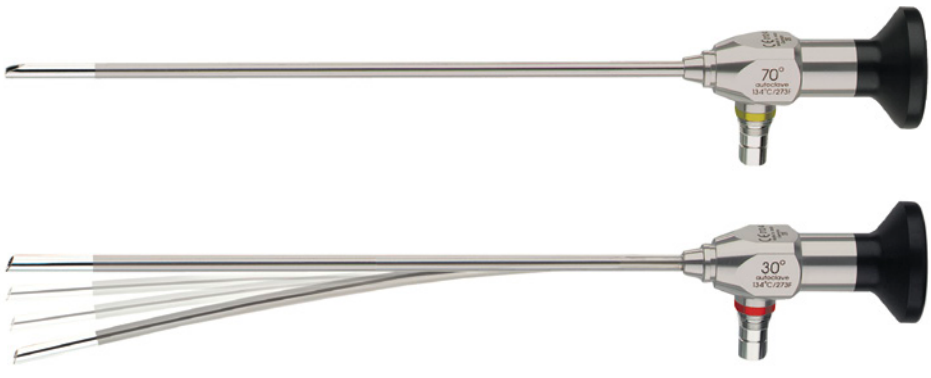
Laparoscope	Description	Order number
Ø = 5.0 mm	Laparoscope, Ø 5.0 mm, l = 300.0 mm, 0°, autoclavable	886-0021
Ø = 5.0 mm	Laparoscope, Ø 5.0 mm, l = 300.0 mm, 30°, autoclavable	886-0022
Ø = 10.0 mm	Laparoscope, Ø 10.0 mm, l = 310.0 mm, 0°, autoclavable	886-0023
Ø = 10.0 mm	Laparoscope, Ø 10.0 mm, l = 310.0 mm, 30°, autoclavable	886-0024
Ø = 10.0 mm	Laparoscope, Ø 10.0 mm, l = 310.0 mm, 45°, autoclavable	886-0024
Ø = 6.5 mm	Laparoscope Ø 6.5 mm, l = 300.0 mm, 0°, autoclavable	886-0081
Ø = 6.5 mm	Laparoscope Ø 6.5 mm, l = 300.0 mm, 30°, autoclavable	886-0082
Ø = 10.0 mm HD	Laparoscope HD, Ø 10.0 mm, l = 310.0 mm, 0°, autoclavable	886-0023
Ø = 10.0 mm HD	Laparoscope, Ø 10.0 mm, l = 310.0 mm, 30°, autoclavable	886-0024

Thoracoscope	Description	Order number
Ø = 10.0 mm	Thoracoscope, Ø 10.0 mm, l = 210.0 mm, 0°, autoclavable	886-0083
Ø = 10.0 mm	Thoracoscope, Ø 10.0 mm, l = 210.0 mm, 30°, autoclavable	886-0084

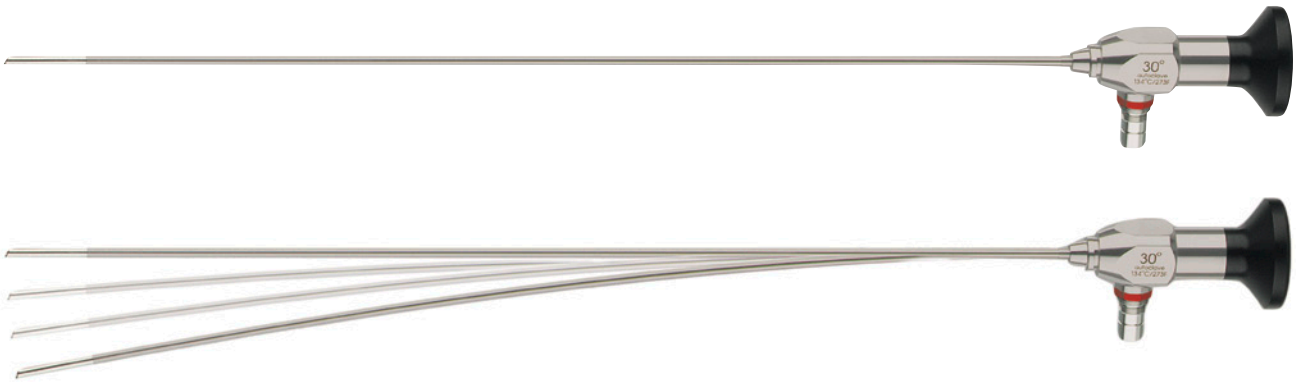
ENDOSCOPES

ARTHROSCOPY

Arthroscope	Description	Order number
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 110.0 mm, 0°, autoclavable	886-0000
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 110.0 mm, 0°, autoclavable	886-0001
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 110.0 mm, 30°, autoclavable	886-0002
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 110.0 mm, 30°, autoclavable	886-0003
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 110.0 mm, 70°, autoclavable	886-0004
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 175.0 mm, 0°, autoclavable	886-0005
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 175.0 mm, 0°, autoclavable	886-0006
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 175.0 mm, 30°, autoclavable	886-0007
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 175.0 mm, 30°, autoclavable	886-0008
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 175.0 mm, 70°, autoclavable	886-0009
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 187.5 mm, 0°, autoclavable	886-0010
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 187.5 mm, 0°, autoclavable	886-0011
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 187.5 mm, 30°, autoclavable	886-0012
Ø = 2.7 mm, semiflex	Arthroscope, Ø 2.7 mm, l = 187.5 mm, 30°, autoclavable	886-0013
Ø = 2.7 mm	Arthroscope, Ø 2.7 mm, l = 187.5 mm, 70°, autoclavable	886-0014
Ø = 4.0 mm	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 0°, autoclavable	886-0015
Ø = 4.0 mm, semiflex	Arthroscope, Ø 4.0mm, l = 175.0 mm, 0°, autoclavable	886-0016
Ø = 4.0 mm	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 30°, autoclavable	886-0017
Ø = 4.0 mm, semiflex	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 30°, autoclavable	886-0018
Ø = 4.0 mm	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 45°, autoclavable	886-0085
Ø = 4.0 mm, semiflex	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 45°, autoclavable	886-0086
Ø = 4.0 mm	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 70°, autoclavable	886-0019
Ø = 4.0 mm, semiflex	Arthroscope, Ø 4.0 mm, l = 175.0 mm, 70°, autoclavable	886-0020
Ø = 4.0 mm Aesculap compatible	Arthroscope, Ø 4.0 mm, l = 142.0 mm, 30°, autoclavable,	886-0091



Cystoscope	Description	Order number
Ø = 2.7 mm	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 0°, autoclavable	886-0038
Ø = 2.7 mm, semiflex	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 0°, autoclavable	886-0039
Ø = 2.7 mm	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 12°, autoclavable	886-0096
Ø = 2.7 mm, semiflex	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 12°, autoclavable	886-0097
Ø = 2.7 mm	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 30°, autoclavable	886-0040
Ø = 2.7 mm, semiflex	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 30°, autoclavable	886-0041
Ø = 2.7 mm	Cystoscope, Ø 2.7 mm, l = 302.0 mm, 70°, autoclavable	886-0042
Ø = 4.0 mm	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 0°, autoclavable	886-0043
Ø = 4.0 mm, semiflex	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 0°, autoclavable	886-0044
Ø = 4.0 mm	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 12°, autoclavable	886-0045
Ø = 4.0 mm, semiflex	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 12°, autoclavable	886-0046
Ø = 4.0 mm	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 30°, autoclavable	886-0047
Ø = 4.0 mm, semiflex	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 30°, autoclavable	886-0048
Ø = 4.0 mm	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 70°, autoclavable	886-0049
Ø = 4.0 mm, semiflex	Cystoscope, Ø 4.0 mm, l = 302.0 mm, 70°, autoclavable	886-0050



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